REMARKS

Claims 20-27 are pending in the present application. In the Office Action dated December 1, 2004 the Examiner rejected claims 1-2 and 11 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,278,114 issued to Mitsui. Claims 20-24 and 26 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,747,816 issued to Kurosaki. Claims 12-14 and 16-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,834,783 issued to Muraki et al. and in view of U.S. Patent No. 4,600,839 issued to Ichihashi et al. Claims 25 and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,747,816 issued to Kurosaki.

The disclosed embodiments of the present application will now be discussed in comparison to the cited references. Of course, the discussion of the disclosed embodiments, and the discussion of the differences between the disclosed embodiments and the cited references, do not define the scope or interpretation of any of the claims. Instead, such discussed differences merely help the Examiner appreciate important claim distinction discussed thereafter.

In one embodiment shown in Figure 6, an apparatus for measuring the dimensions of semiconductor features includes two electron guns 330*a* and 330*b* positioned above a stage 340 that supports a semiconductor substrate 20 being measured. Electrons emitted from the electron guns 330*a* and 330*b* form electron beams 335*a* and 335*b*, which pass through corresponding condenser lenses 331*a* and 331*b*. The ports 332*a* and 332*b* in a plate 332 receive the corresponding electron beams 335*a* and 335*b* from the condenser lens 331. Upon passing through the respective ports 332*a* and 332*b*, each electron beam 335*a* and 335*b* passes through a corresponding objective lens 333*a* and 333*b* to focus the electron beams on the surface of the semiconductor substrate 20. In operation, each electron gun 330 may be individually controlled and the corresponding depth of focus of the electron beams 335*a* and 335*b* may be controlled by their respective condenser lens 331 and objective 333.

In operation, a feature of a semiconductor substrate may be scanned by an electron beam having a first depth of focus to create a first reflected electron beam and by a second electron beam having a second depth of focus. By focusing the first electron beam on one portion of the feature and the second electron beam on another portion of the feature, the various dimensions of the feature may be measured by detectors detecting the reflected or emitted electrons from the semiconductor substrate 20.

The Examiner has cited the Kurosaki reference. The portion of the Kurosaki reference pointed out by the Examiner is best shown in Figure 4 and discloses two electron emitters. Each electron emitter emits electrons that appear to pass through a corresponding port surface (not number in Figure 4). After passing through the corresponding port surface, the electron beam appears to pass through corresponding lenses 55 and 56, bias coils 49 and 50, and again through corresponding lenses 57 and 58. The Kurosaki reference does not disclose or fairly suggest a system where the beam emitted from each of the emitters first passes through a lens, then through first port of a plate, and after passing through the first port passing through another lens.

Turning now to the claims, the patentably distinct differences between the cited references and the claim language will be specifically pointed out. Claim 20 recites "first and second sources of electrons; a first lens positioned proximate to the first source of electrons to receive a first electron beam emitted therefrom; a second lens positioned proximate to the second source of electrons to receive a second electron beam emitted therefrom; a plate having a first port and a second port extending through a thickness thereof, the first port spaced apart from the first lens to receive the first electron beam passing through the first lens, the second port spaced apart from the first port and from the second lens to receive the second electron beam passing through the second lens; a third lens configured to focus the first electron beam on a first position surface and positioned to receive the first electron beam passing through the first port; a fourth lens configured to focus the second electron beam on a second position surface and positioned to receive the second electron beam passing through the second port ; and a support configured to engage the semiconductor device and located to receive the first and the second electron beams, at least one of the support and the sources of electrons being movable relative to each other."

As required by the language of claim 20, the plate is positioned between the first/second lens and the third/fourth lens. In contrast, the Kurosaki reference discloses that the port surface is positioned between the electron emitter and the lens 55 in the system 41 and the electron emitter and the lens 56 in the system 42. Furthermore, the port surface shown in Figure 4 of the Kurosaki reference does not have a first and second port. Instead, the Kurosaki reference discloses two separate port surfaces defining ports for use with corresponding electron emitters of the systems 41 and 42. As amended, the bias coils 49 and 50 cannot reasonably be interpreted as a plate having first and second ports. Accordingly, claim 20 is not anticipated because the

Kurosaki reference fails to disclose each and every element of claim 20. Therefore, claim 20 is allowable over the Kurosaki reference. Claims depending from claim 20 are also allowable due to depending from an allowable base claim and further in view of the additional limitations recited in the dependent claims.

All of the claims remaining in the application (claims 20-27) are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,
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